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May 26, 2004

PCT-Patent Application No.: PCT/IB02/03030

NOKIA CORPORATION et al.

Our ref: WO 32586

(Frist: 13.06. Eing.)

Reference is made to the Written Opinion dated April 14, 2004.

Documents filed:

Enclosed herewith new claims 1 to 19 are filed. Claims 1 to 19 replace the original claims 1 to 20. In order to elucidate the individual amendments effected, a corresponding claim amendment sheet is also enclosed herewith.

Disclosure of amendment:

Claims 1 to 19 as filed herewith are substantially based on the original claims 1 to 20, as set out herein in greater detail. Claim 1 as filed herewith corresponds to a combination of original claims 1 and 4, claims 2 and 3 correspond to original claims 2 and 3, and claims 4 to 16 correspond to original claims 5 to 17, respectively, with the numbering being now accordingly adapted. Claim 17 corresponds to original claim 18, now being adapted to the valid version of claim 1. Claims 18 and 19 correspond to

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original claims 19 and 20, respectively, with the numbering being accordingly adapted.

Apart from the original disclosure of the amendment in original claim 4, this amendment is held to be disclosed, for example and among others, on page 15, lines 4 to 7 of the original specification.

Novelty and inventive step:

With the above-referenced Written Opinion, the subject-matter of original claim 4 was not objected to for lack of inventive step.

Hence, the subject-matter as presently claimed in the independent claims 1 and 17, respectively is strongly held to be neither anticipated by the cited prior art nor to be rendered obvious thereby.

Therefore, a positive International Preliminary Report on Patentability under chapter II of the PCT is respectfully awaited.

Jürgen Faller
Patentanwalt
TBK-Patent

Enclosures:

- Claims 1 to 19.
- Claim amendment sheet for claims 1 to 19

Enclosure of May 26, 2004

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CLAIMS

- 10 1. A method of carrying an application level message encapsulated inside a signaling message of an access network, said method comprising the steps of:
- receiving (1) an application level message from a sender application process to an access network signaling
15 process;
- adapting (3) said application level message and encapsulating it in a signaling message of an access network; and
- delivering (1, 3, 4) said encapsulated application
20 level message to a receiver application process by transmitting said signaling message, wherein said encapsulated application level message is transparent to the means of said access network transmitting said signaling message, and
- 25 wherein said application level message includes an indication under which conditions the signaling message should be delivered.
2. A method according to claim 1, wherein said sender
30 application process is performed in a mobile terminal being attached to said access network.
3. A method according to claim 1, wherein said sender
35 application process is performed in a server providing a corresponding application.

4. A method according to claim 1, wherein said indication comprises an address of the application receiver process being one of the group comprising a logical name, an IP address, and a port number.

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5. A method according to claim 1 or 4, wherein said indication comprises another indication whether said signaling message should be delivered even if the Quality-of-Service changes.

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6. A method according to claim 1, wherein said method is implemented in a call establishment procedure for Voice over the Internet Protocol (VoIP).

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7. A method according to claim 1, wherein said encapsulated application level message is included in an activation request within a Packet Data Protocol (PDP) context signaling.

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8. A method according to claim 3, wherein said application server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.

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9. A method according to claim 7, wherein said packet data protocol (PDP) context signaling is embedded into one of the group of a Session Initiation Protocol (SIP) signaling, a Resource Reservation Protocol (RSVP) signaling, and a Point to Point Protocol (PPP) signaling.

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10. A method according to claim 7, wherein said encapsulated application level message includes a complete Session Initiation Protocol (SIP) message.

11. A method according to claim 10, wherein a Gateway GPRS Support Node (GGSN) creates a Internet Protocol/User Datagram Protocol header and forwards said complete Session Initiation Protocol (SIP) message to a Session Initiation Protocol (SIP) proxy means.

12. A method according to claim 11, wherein said header is created by using information sent in an optional application level message information element.

13. A method according to claim 11, wherein said header is created by using information coming from said Packet Data Protocol (PDP) context signaling.

14. A method according to claim 11, wherein said header is created by using information coming from a configuration process.

15. A method according to claim 7, wherein

said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a context response message only when a response of said receiver application process is received, as a reaction to which said Gateway GPRS Support Node (GGSN) starts a timer to wait for answer; and wherein

a reply before the expiry of said timer is copied as a new encapsulated application level message in said context response message, and in case of no reply before the expiry of said timer an indication that said receiver application process does not answer is copied as a new encapsulated application level message in said context response message.

16. A method according to claim 7, wherein

said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a

context response message immediately, as a reaction to which said Gateway GPRS Support Node (GGSN) sends a context response message immediately, whereas a response of said receiver application process is returned to said sender application process in a non-encapsulated manner as normal traffic.

17. A system adapted to perform a transmission of an application level message encapsulated inside a signaling message of an access network, comprising:

receiving means adapted to receive an application level message from a sender application process to an access network signaling process;

adapting means for encapsulating said application level message in a signaling message of an access network; and

delivering means adapted to deliver said encapsulated application level message to a receiver application processing means, and

wherein said application level message includes an indication under which conditions the signaling message should be delivered.

18. A system according to claim 17, further comprising a server adapted to perform said sender application process.

19. A system according to claim 18, wherein said server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.